Clark County, Washington

Annual Report for the Period of

January 1 to December 31, 2000

June 29, 2001

Submitted in compliance with National Pollutant Discharge Elimination
and State Waste Discharge Permit No. WA-004211-1

Clark County Public Works Department
Vancouver, Washington

STATEMENT OF CERTIFICATION

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: _____

County Administrator

CLARK COUNTY 2000 NPDES PERMIT ANNUAL REPORT

This document is the annual report for the reporting period of January 1, 2000 to December 31, 2000. It is the second annual report under Clark County's permit. The Washington Department of Ecology extended Clark County's permit from its expiration date of December 31, 2000 to when the next permit is issued. The county filed a notice of intent to receive permit coverage as a part of the June 2000 annual report.

Permit reporting is made complex by overlapping permit requirements, multiple departments performing parts of permit components, and that permit components are parts of larger work programs.

PERMIT REQUIREMENTS

Clark County's NPDES permit includes a requirement for an annual report to verify compliance with the primary permit requirement, performing the tasks of the stormwater management program. The following section quotes the permit requirement for an annual report.

S8. SWMP Annual Report

A. The permittee shall submit an annual report by July 1, 2000 and annually thereafter. Any information in the report readily distinguished by water quality management areas should be presented as such.

B. The report shall include the following sections:

1. *Status of implementing the Components of the approved SWMP, including the status of compliance with the approved implementation schedule described in Special Condition S9, and a description and rationale of any program modifications made, other than those submitted for approval under Special Condition S5.A;*

2. *Notification of any recent or proposed annexations or incorporations resulting in an increase or decrease in permit coverage area, and implications for the SWMP;*

3. *Differences between planned and actual expenditures with a breakdown for the components of the SWMP and the budget since permit issuance. The report shall reflect numeric expenditures for the components of the SWMP;*

4. *Revisions, if necessary, to the fiscal analysis reported in the SWMP;*

5. *A summary and analysis of the cumulative monitoring data collected throughout the term of the permit;*

    a. *If the permittee monitors any pollutant more frequently than required by the SWMP, then the results of this monitoring shall be included in the report.*

    b. *If the permittee conducts any other stormwater monitoring in addition to that required in the SWMP, then it shall provide a description of the additional monitoring in the report.*

6. *A summary describing compliance activities, including the nature and number of official enforcement actions, inspections, and types of public education activities;*

7. *Identification of known water quality improvements or degradation; and*

8. *Status of watershed-wide coordination and activities which the permittee has undertaken individually or jointly. The report shall include proposed management measures to enhance regional coordination and/or address regional stormwater problems that will be implemented during the term of the next permit.*

ANNUAL REPORT LAYOUT

The report follows the list of numbered requirements with the exception that requirements S8.B.1 (status of permit components) and S8.B.6. (summary of compliance measures) are combined to simplify presentation.

1. STATUS OF PERMIT COMPONENTS

The permit-defined stormwater management program components are listed, followed by a description of the status of compliance, including a section for the scheduled activities under Condition S9.

The Stormwater Water Management Program, submitted to Ecology in 1998 as the permit application, included permit-mandated activities and several water resource and habitat protection/enhancement activities not specifically required by the permit. This report focuses on stormwater management program activities mandated by the NPDES permit.

NPDES-mandated activities are activities that meet a specific permit requirement.

S5.B.1. Comprehensive Planning Process

Permit Requirement

A description of a comprehensive planning process used to develop the stormwater management program including public participation, intergovernmental coordination, and the relationship to other planning processes.

Summary of Compliance Activities

This requirement was performed for the 1999 NPDES stormwater management program submitted for the current permit. The Washington Department of Ecology extended the Clark County stormwater management program past the December 31, 2000 permit expiration date. When Ecology issues a new permit, the county will be required to revise its stormwater management program. The Clean Water Commission, in part acts as a part of the planning process for the stormwater program.

There is more detailed budget and expense information in section 3 of this report.

S5.B.2. Management Needs and Priorities

Permit Requirement

An analysis of stormwater management needs, a system for prioritizing needs, a description of the basis for the priority system, and an implementation plan and schedule for the term of the permit that reflect the priority needs. The stormwater management program must have an appropriate balance between prevention and correction based upon available information about sources of pollution and discharges from municipal separate storm sewers owned or operated by the permittee.

Summary of Compliance Activities

This requirement was performed for the 1999 NPDES stormwater management program submitted for the current permit. The stormwater management program implements the highest priority activities. The next permit will require a new needs assessment following the method prescribed by the permit under direction of the Clark County Board of County Commissioners and Clean Water Commission.

S5.B.3. Legal Authority

Permit Requirement

Adequate legal authority to control discharges to and from municipal separate storm sewers owned or operated by the permittee. This legal authority, which may be a combination of statute, ordinance, permit, contract, order, or inter-jurisdictional agreements with other permittees which have existing legal authority, shall include the ability to:

1. *Control the contribution of pollutants to municipal separate storm sewers owned and operated by the permittee from stormwater discharges associated with industrial activity, and control the quality of stormwater discharged from sites of industrial activity;*
2. *Prohibit illicit discharges to the municipal separate storm sewer owned or operated by the permittee;*
3. *Control the discharge of spills and the dumping or disposal of materials other than stormwater into the municipal separate storm sewers owned or operated by the permittee;*
4. *Control through interagency agreements or inter-jurisdictional agreements among permittees, the contribution of pollutants from one municipal separate storm sewer to another;*
5. *Require compliance with the conditions in ordinances, permits contracts or orders; and*
6. *Within the limitations of state law, carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance with local ordinances.*

Summary of Compliance Activities

Within the limits of powers granted by state and federal government, Clark County maintained adequate legal authority to control pollutant discharges and to enter into agreements with other permittees. This authority was in place before the reporting period.

S5.B.4. Monitoring Program

Permit Requirement

A program to monitor the effectiveness of the stormwater management program in reducing pollutants discharged and reducing impacts to surface waters, ground waters, and sediments. The monitoring program, based upon the priorities identified in Special Condition S5.B.2. and specific actions required in Special Condition S9.C., shall address field evaluation, sampling, and analysis to:

a. Estimate concentrations and loads from representative areas or basins to be used in evaluating overall program effectiveness;

b. Evaluate the effectiveness of selected Best Management Practices (BMPs);
c. Identify specific sources of pollution; and
d. Identify the degree to which stormwater discharges are impacting selected receiving waters and sediments.

The monitoring program shall include a quality assurance/quality control plan.

Summary of Compliance Activities

During the permit-reporting period, the monitoring program continued existing monitoring programs and began activities scheduled by Condition S9.C.

Stream Gauges

Public Works operates four continuous stream gauges that digitally record hourly readings. Two are on Salmon Creek and two are on Lacamas Creek. Stage-discharge rating curves were revised in 1999 and 2000. Data is compiled and archived quarterly.

Rain Gauges

Public Works continued to operate four rainfall recorders, one in upper Burnt Bridge Creek Basin, one in Lacamas Creek Basin, and two in Salmon Creek Basin. The stations record hourly totals on digital loggers. Data is compiled and archived quarterly.

Lacamas Lake Loading

The Lacamas Lake Restoration Program operates a continuous sampling station on lower Lacamas Creek. Rainfall, stream flow, conductivity, dissolved oxygen, pH, and temperature are recorded hourly. Storm and base flow samples are collected and analyzed for total phosphorus and total suspended solids to calculate annual Lacamas Lake loading estimates. The third year of operation began in October 2000.

Lacamas Lake Monitoring

The Lacamas Lake Restoration Program performs monthly monitoring in Lacamas Lake to track lake health over time. Vertical profiles are collected for dissolved oxygen, temperature, pH, conductivity, and turbidity at 1-meter intervals. Secchi-disk readings are also recorded, and water samples collected from several depths for nutrient analyses.

Water Table Monitoring

During the permit term, Public Works identified and field checked several wells for the water table monitoring project. The project plan will be

finalized after the groundwater monitoring requirements for the next permit are known.

Stormwater BMP testing

Public Works completed a project to test a patented stormwater treatment device (modified manhole) designed to trap sediment and oil. The BMP is installed in a high-traffic area of the Central Operations Center.

The project report was completed in August 2000 and concluded that the BMP had TSS and TPH removal efficiencies of about 50 percent and that the BMP was probably not as effective as treatment BMPs in the state stormwater manual.

Storm Sewer Screening Program by July 31, 2000

Storm sewer screening also addresses requirements of S5.B.8.g. (illicit discharge abatement). The screening plan was completed and the yearly screening was completed during summer months of 2000. Screening data was entered into the NPDES database and thirteen sites were referred to education or enforcement staff.

The project visited 109 sites and collected water samples at 38 sites. The following table summarizes water quality testing on the 38 sites where dry-weather flow was found.

Parameter	Criteria for Inclusion in Tally	Number of Sites
Temperature	>18 degrees C *	3
pH	<6.5 or >8.5 units *	0
Turbidity	>5 NTU over background *	1
Copper	present	1
Iron	present	14
Color	>30 Hach units	10
Total Chlorine	present	5
Ammonia	present	6
Fecal Coliform	>100 col/100 ml*	12
Odor	present	1
Clarity	other than clear	5
Floatables	present	1
Deposits/Stains	present	7
*indicates Washington Class A water quality standard		

Develop an implementation schedule for watershed characterization and basin management projects by July 31, 2000

Public Works completed a schedule in July 2000 to set protocols and begin a monitoring program in the 2001 field season. Work continued on

protocols and plan through 2000. Full implementation is delayed until the monitoring provisions of the next permit are known.

The county monitoring program considers the following issues:

- The activities listed in the 1999 permit condition were planned to be phased over a 2 to 3 year period and subject to county priorities, revenue constraints and coordinated interagency ESA monitoring efforts.
- Multiple local and state data gathering programs for ESA watershed characterization are under development. These need to be coordinated with stormwater monitoring goals.
- State-implemented TMDLs in Salmon Creek and Gibbons Creek are expected to be monitored by the state and not be duplicated by a local program.
- The next NPDES permit will have different monitoring requirements than the current permit. These monitoring requirements will probably not be finalized until mid or late 2001.
- There are future state stormwater manual and NPDES permit requirements for hydrologic models for stormwater facility design that will not be known until the next permit is issued.

Overall Monitoring Approach

Clark County has an overall approach to data gathering and analysis that follows simple guidelines.

1. Collect data that we can use to discern long-term trends

2. Collect data that we can use to make management decisions

3. Collect data that we can use to do stormwater projects

4. When we collect data or start data gathering programs, we try to:
   - Not duplicate others' work;
   - Coordinate or share activities;
   - Establish common parameters, standards, and methods; and
   - Share data storage and reporting systems.

To do this, one of our main tasks was to create a set of indicators (or parameters) that will serve one or more uses and can ultimately become uniformly applied by various agencies.

The NPDES program planned several start-up projects for during summer and fall of 2001. Part of the reason for these projects is to assess level of effort and cost for monitoring techniques not previously used by Clark County. The new work will focus on monitoring

stormwater-influenced streams and collecting data for current watershed management efforts in the Lacamas Creek watershed.

S5.B.5. Fiscal Analysis

Permit Requirement

A fiscal analysis, covering the term of the permit, of the capital, and operation and maintenance expenditures necessary to implement the stormwater management program, and a description of staff, equipment, and support capabilities to implement the stormwater management program. The fiscal analysis shall include a description of the source of funds that are available or are proposed to meet the necessary expenditures.

Summary of Compliance Activities

This is a requirement for submittal of the stormwater management program in the 1998 NPDES Part 2 application (revised in 1999). Each program element described in the SWMP and the Special Condition S9 included a description of the estimated annual budget for each current and proposed activity. Funding sources were specified for current activities. A new stormwater fee, later termed the Clean Water Fee was established to fund proposed new activities.

Baseline funding

The ongoing (pre-permit) activities are funded by development fees, general funds, grants, residual capital funds from the former Burnt Bridge Creek Utility, and the Road Fund.

The county uses financial tracking systems to account for NPDES revenue, staff hours by permit component, and costs by permit components for most new activities and many ongoing, pre-permit activities.

Clean Water Fund for Proposed (New) Activities

Clark County initiated a stormwater fee to pay for increased stormwater management under the permit (the permit condition S9 activities). The fee was approved in October 1999 and the first annual billing mailed on June 20, 2000. All revenue is placed in a special fund called the Clean Water Fund, to which only new NPDES activities are billed. All billings to this fund are coded by permit component.

The Clean Water Commission 2000 Annual Report lists the budget, revenue, expenditures and fund balance. Unspent revenue reverts to the stormwater capital program.

Total 2000 NPDES new activity budget:	$3,692,861.
Total 2000 stormwater fee revenue:	$4,061,674.

S5.B.6. Data Maintenance

Permit Requirement

A mechanism for gathering, maintaining and using adequate information to conduct planning, priority setting, and program evaluation activities. The information and its form of retention shall include but not be limited to:

a. Mapping of known municipal separate storm sewer outfalls;
b. Mapping of tributary conveyances, and the associated drainage areas of major municipal separate storm sewer outfalls;
c. Maps depicting existing land use;
d. A Map depicting zoning; and
e. A data base, including at least the following information: precipitation records; stormwater quality and quantity records; water quality and physical characteristics of receiving water that may be impacted by stormwater; and a description and location of major structural BMPs and other structural controls for stormwater discharges.

Summary of Compliance Activities

Data are collected and maintained by several county departments and agencies in the County.

Stormwater Infrastructure Mapping

The county worked to upgrade the system for maintaining computerized storm sewer system maps. The Department of Assessment and GIS (geographic information system) established a countywide database structure for storm sewers and related information.

The Department of Assessment and GIS scanned and linked to internet based maps 2,625 subdivision and short plat plans. An additional 672 site plans are scanned and linked. Another 500 plans are scanned but not linked to internet-based map.

Public Works began a pilot project to put the available storm sewer system into a GIS for one medium-sized urban basin (Cougar Creek).

Private Facilities Inventory and Mapping System by July 31, 2000

Approximately 160 private stormwater control facilities were inventoried for maintenance requirements of county stormwater control ordinances. Storm sewer maintenance and water quality source control inspectors added approximately 160 other older private storm systems to the private

facility maintenance tracking inventory linked to tax lots. Public Works obtained copies of industrial NPDES permit site plans for 62 facilities.

GIS Land Use Data

The Clark County Clark Count Department of Assessment and GIS has a library that includes land use descriptions, zoning classifications, basin boundaries, water bodies, basin boundaries, and other information useful for stormwater management. Some of this information may be viewed through the county web site. Layers that were actively maintained by GIS or Public Works include:

- Parcel boundaries and attributes including land use and zoning
- Administrative boundaries
- Urban growth boundary
- Easements from quarter sections
- Subdivision boundaries
- Public and private roads
- Orthophotographic images of the entire county (July 2000)
- Stormwater Fee Parcels
- Stormwater lines and points
- Type 4 Tax lot and road impervious area measurement

GIS data at the GIS Department or Public Works that may or may not be periodically maintained:

- NPDES sample points
- Sanitary sewer lines
- Drainage basins
- Sub basin boundaries
- USGS topographic contours
- Localized 2 foot contours
- Tax lot impervious area estimate or measurement
- Land use
- Zoning
- DNR water features
- Conservation easements
- State and federally owned lands
- City/County Parks
- Aquifer units
- Comprehensive land use plan for GMA
- Flood Plains
- Gravel pits
- Wellhead protection areas
- Septic system parcels

Stormwater Fee Database

Clark County created a county-wide storm sewer fee database which includes every tax lot in unincorporated areas having structures valued at $10,000 or more. It also includes the square feet of impervious area for each non-residential lot (businesses, industries, public facilities, county roads, and government facilities).

Centralized Water Quality and Quantity Database by December 31, 2000

During the reporting period, Clark County continued to maintain databases for each monitoring project. Public Works established a centralized Microsoft Access database for recording and reporting storm sewer screening, private storm sewer maintenance inspections, and source control BMP implementation. Historic water quality and water resource reports are compiled into a set in the NPDES files. A data repository is established on Environmental Services' network computer where digital data is compiled.

S5.B.7. Watershed-wide Coordination

Permit Requirement

Consider opportunities for watershed-wide coordination mechanisms to address the following during the term of the permit:

a. Development of coordinated stormwater management programs for shared water bodies;

b. Coordination of data management and mapping activities for compatibility; and

c. Coordination of monitoring and modeling activities to develop comparable data sets among permittees when estimating pollutant concentrations and loads, evaluating impacts, and addressing controls.

Summary of Compliance Actions

Clark County endeavors to coordinate with local municipalities and agencies that play a role in water resource or stormwater management. Examples include:

- Cooperation with the City of Vancouver to develop a water quality BMP manual for O and M of publicly owned lands;
- Establishment of a centralized/county-wide GIS system for maintaining and sharing all local storm drainage mapping (currently only Clark County is using this);
- Periodic meetings to share information with Puget Sound NPDES municipal stormwater permittees;
- Participation in the statewide stormwater policy committee;
- Participation in the NPDES monitoring work group;

- Coordinating with the Clark County Conservation District for water resource education activities;
- Clean Water Commission meetings to advise the Clark County Board of County Commissioners on stormwater issues;
- Operation of the county street waste decant facility which is shared with Vancouver and WDOT, and available to other Clark County municipalities;
- A cooperative watershed stewards program with WSU;
- Active participation in the Lower Columbia Fish Recovery Board;
- Active participation on the WRIA 27/28 planning unit;
- Coordinating with Clark Public Utilities for Salmon Creek watershed data gathering;
- Working with the Washington Conservation Commission to conduct a Limiting Factors Analysis for WRIA 28;
- A representative on a group of Portland-Vancouver area ESA coordinators;
- The county ESA coordinator is on the Board of Directors for Clark County Habitat Partners, a public-private promoting habitat preservation and restoration; and
- A county representative on "FishCom", a regional group of public information and outreach professionals who coordinate clean water and ESA outreach efforts.

S5.B.8.a. New Development, Redevelopment and Construction Site Runoff

Permit Requirement

A program to control runoff from new development, redevelopment and construction sites that discharge to the municipal separate storm sewers owned or operated by the permittee. The program must include: ordinances, minimum requirements and best management practices (BMPs) equivalent to those found in Volumes I-IV of Ecology's Stormwater Management Manual for the Puget Sound Basin (1992 edition and as amended by its replacement), permits, inspections, and enforcement capability. The program must also include a process to make available copies of the "Notice of Intent for Construction Activity" and/or copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment.

Summary of Compliance Activities

Clark County Department of Community Development implemented the following development regulations to control stormwater's adverse influence on streams, wetlands, lakes, groundwater, and wildlife habitat:

- Stormwater and Erosion Control Ordinance;

- Utilities Ordinance;
- Wetlands Protection Ordinance;
- Habitat Preservation Ordinance; and
- Critical Aquifer Recharge Areas Ordinance.

Equivalence to the Stormwater Management Manual for the Puget Sound Basin (Washington Department of Ecology, Feb. 1992)

The county stormwater and erosion control code was revised for equivalence to the state manual and adopted by the Clark County Board of County Commissioners in July 2000. In April 2001, Ecology formally acknowledged that Clark County code meets the permit equivalency requirement.

Erosion Control Certification

After January 1, 2001, County code requires all development contractors to be state or county certified to install and maintain erosion controls.

Regulatory Program Compliance Measures

Stormwater engineering plans are only approved after detailed engineering review for conformance to stormwater code. Building permits are not issued until the subdivision stormwater system is complete.

Stormwater and Erosion Control Engineering Plan Review

	PLANS SUBMITTED	NUMBER WITH STORMWATER FEATURES	PLANS APPROVED	NUMBER IN COMPLIANCE
2000 Totals	**169**	**169**	**78**	**78**

Building Division Erosion Control Compliance Measures

MONTH	BUILDING INSPECTORS	INSPECTIONS	CORRECTION ORDERS	STOP WORK ORDERS	CITATIONS
January	10	217	41	0	0
February	9	203	27	0	0
March	10	353	52	2	0
April	10	690	71	1	0
May	10	838	42	4	0
June	10	907	56	3	0
July	10	690	71	1	0
August	10	838	42	4	0
September	10	907	56	3	0
October	10	807	118	0	0
November	10	671	77	0	0
December	10	579	65	3	0
	Totals	**7700**	**718**	**21**	**0**

Development Services Inspections

Reporting Item	**Totals**
# of active construction projects	319
# projects with initial inspection for buffer stakes and sed control	42
# projects with monthly erosion control log	167
# erosion control inspections	1279
# projects with erosion control certification (became effective Jan. 2001)	0
# stop work orders for erosion control violations	3
# citations for erosion control violations	5
# stormwater control inspections	1281
# stop work orders for storm control violations	3
# citations for storm control violations	0
# construction acceptances	175
# maintenance warranty inspections	237
# projects receiving maintenance warranty inspection at 22 months (for county ownership)	51
% projects receiving maintenance warranty inspection at 22 months (for county ownership)	100%
# warranty inspections where notice of deficiencies sent out	42
% warranty inspections where notice of deficiencies sent out	82%
# final warranty release	51

Public Works Utility Permit Inspections

All public utilities permit work in right-of-way is required to have a utilities permit and follow the design specifications. During 2000, approximately 1201 utility permit applications were filed. After July 2000, these projects also are subject to erosion control requirements of

Chapter 13.29 CCC. No enforcement tracking was in place during 2000, but data collected in 2001 suggest each permitted activity received an average of three inspections.

Public Works Road Program Plan Review

All Public Works Department project design plans are submitted to Community Development for review and approval. The process is identical to private projects.

Public Works Road Program Construction

County road project contractors are required to conform to local and state codes and laws by contract. To ensure this, an inspector is dedicated to this task. This inspector has work experience in both Code Enforcement and Stormwater Engineering Divisions and is fully trained in compliance issues and local codes. This inspector works with the both contractor and with other engineers and inspectors on our projects on the tasks of compliance and standards.

The road construction program changed the standard contract to include individual bid items for erosion and sediment control and stormwater pollution prevention. Previous to this change all water quality items were grouped under a “lump sum” item which frequently resulted in minimal standards being met. Now there are charges to individual water quality items, such as a construction entrance and wash rack, or an erosion control blanket. Specifications now include job requirements of Stormwater Pollution Prevention Plans, certified Erosion and Sediment control Lead person, and daily logs.

There is a staff person dedicated to each project from the engineering and design to construction. Our site inspector visits the site early in the process to identify potential problems long before they become issues and to recommend field changes in the construction process. Our inspector also audits the SWPPP and the ESC logs required by the contract.

Code Enforcement Division Compliance Measures

Code Enforcement Division enforces building, development, and environmental regulations. Two Code Enforcement Officers work full time on erosion control and related environmental regulations.

Type of Inspection	Grading	Erosion	Water Quality	Surface Water	Shoreline	Other	TOTAL
Complaints	140	370	46	12	14	13	595
Violation Found	27	250	14	4	1	11	307
Subdivision Monitor	0	1,173	11	0	0	11	1,195
Educational	25	45	16	0	2	12	100
TOTAL	**192**	**1,838**	**87**	**16**	**17**	**47**	**2,197**
Total lst Qtr 2000	27	279	21	3	0	5	335
Total 2nd Qtr 2000	69	406	30	6	9	17	537
Total 3rd Qtr 2000	41	462	24	6	3	16	552
Total 4th Qtr 2000	55	691	12	1	5	9	773
TOTAL	**192**	**1,838**	**87**	**16**	**17**	**47**	**2,197**

Code Enforcement Resolutions

Type of Resolution	Grading	Erosion	Water Quality	Surface Water	Shoreline	Other	TOTAL
Notice/Letter/Contact	76	167	40	5	14	32	334
Citation/Stop Work	6	10	0	0	3	0	19
Appeals	3	6	0	0	0	0	9
Referrals	0	0	5	0	0	0	5
No Violation	107	1,655	42	11	0	15	1,830
TOTAL	**192**	**1,838**	**87**	**16**	**17**	**47**	**2,197**
Total 1st Qtr 2000	56	400	32	4	0	11	503
Total 2nd Qtr 2000	47	593	23	6	8	22	699
Total 3rd Qtr 2000	52	503	26	4	4	8	597
Total 4th Qtr 2000	37	342	6	2	5	6	398
TOTAL	**192**	**1,838**	**87**	**16**	**17**	**47**	**2,197**

Notice of Intent forms

Notice of Intent forms for NPDES industrial construction permits are available, along with development applications, at the Community Development customer service counter. The Stormwater Control Ordinance requires projects to have all governmental permits as a part of a Final Stormwater Plan.

Regulatory Program Monitoring begin by July 31, 2000

A set of regulatory implementation-monitoring criteria were established and implemented by Community Development and Public Works. These are included as reporting items in this report.

S5.B.8.b. Control of Runoff from Existing Residential and Commercial Development (includes retrofitting)

Permit Requirement

Appropriate treatment and source control measures to reduce pollutants in runoff from existing commercial and residential areas that discharge to municipal separate storm sewers owned or operated by the permittee.

Summary of Compliance Activities

Ecology further defines this requirement as a stormwater capital program to plan and build stormwater facilities to retrofit existing development. The county had a minimal program to build facilities. The largest retrofits were built as a part of county road construction projects.

Burnt Bridge Creek Projects

The remaining water quality capital fund is being applied to building the Thomas Wetland water quality retrofit facility to add treatment and improved wetland habitat. During 2000, this project continued its permit review.

Countywide Stormwater Projects Planning to Begin by August 31, 2000

The county hired an Engineer III in November 2000 to begin the capital program. The search to fill this position took over six months. Initial tasks included completing several existing drainage repair projects, evaluating current facilities for upgrades, and major facilities maintenance projects.

Road project retrofits

Often, road improvement projects add stormwater controls for existing upstream impervious area lacking treatment and retention/detention facilities at current standards. This is a new practice and projects are largely in design and permitting phases. The following is a summary and cost estimate of road projects that include stormwater controls for areas draining into the project. The expenditures are estimates because projects did not separate all of the retrofit costs.

		Impervious Area Information			Year 2000 Expenditures			
WO #	Project	New Impervious	Retrofit Impervious	Total Impervious	Retrofit	Retrofit	Retrofit R-O-W	Total Retrofit
		Area Treated (ac.)	Area Treated (ac.)	Area Treated (ac.)	Design Cost	Construction cost	Purchase Cost	Cost
301422	St. Johns Road	*	*	*	$5,666	$0	$101	$5,766
331922	Padden Parkway(West)	*	*	*	$9,441	$0	$56,400	$65,841
341622	NE 117th / 119th Street	5.8	9.5	15.3	$12,100	$38	$1,442	$13,579
350422	Ward Road / NE 172nd Avenue	2.1	5.7	7.8	$69,220	$803	$54,347	$124,370
360322	NE 10th Avenue Phase I	2.3	0.4	2.7	$9,616	$142,425	$5,490	$157,531
360822	NE Covington Road/Fourth Plain	10.1	2.3	12.4	$9,538	$28,493	$133,849	$171,880
380122	NE 199th Street	4.1	4.0	8.1	$18,882	$0	$44,000	$62,882
381422	NE 134th Street	2.7	4.5	7.2	$36,945	$0	$300,488	$337,432
382722	NE 25th Avenue		0.0	0.0	$30,264	$0	$174,000	$204,264
382822	NE 15th Avenue	7.3	0.3	7.6	$345	$0	$9,008	$9,353
382922	Padden Parkway	*	*	*	$43,326	$190,945	$79,642	$313,913
383022	Ward Road	2.6	10.3	12.9	$66,510	$0	$48,062	$114,572
393022	NW 78th Street	0.5	1.5	2.0	$18,793	$0	$68,330	$87,123
393322	NE Andresen Road - Phase II	0.5	0.3	0.8	$4,668	$54,584	$315	$59,568
393622	NE 76th Street	0.7	2.4	3.1	$19,580	$0	$987	$20,568
393722	NE 162nd Avenue	8.6	11.6	20.2	$25,274	$0	$9,366	$34,640
370822	La Center Bridge #21	0.5	1.5	2.0	$4,209	$310,561	$190	$314,961
381022	NW 117th/119th Street	4.4	6.0	10.4	$16,919	$4	$1,054	$17,977
					$380,168	**$417,288**	**$985,827**	**$2,116,221**

* = acreage not known. The minimum retrofit is 40% above the new impervious area created.
Current Clark County code requires treating 100% of the created impervious area.

Costs are equal to that portion of stormwater management spent to treat existing impervious area.

S5.B.8.c. Operation and Maintenance of Municipal Storm Sewers

Permit Requirement

Operation and maintenance programs for new and existing stormwater facilities owned or operated by the permittee, and an ordinance requiring and establishing responsibility for operation and maintenance of other stormwater facilities that discharge into municipal separate storm sewers owned or operated by the permittee. The programs shall include a strategy for addressing the disposal of street waste, decant, and cooperative efforts with Ecology and other entities to develop decant solutions.

Summary of Compliance Activities

All county-owned storm sewers and roadside ditches are maintenance by Public Works' Operations Division. The owner maintains private storm sewer systems. Standards for maintaining all public and private storm sewer system maintenance are specified by Chapter 13.26A CCC.

County Storm Sewer Maintenance

During 2000, Clark County operated and maintained storm sewers according to schedules and standards established for the approved NPDES stormwater management program.

The Stormwater Facility Maintenance Manual was adopted into code in July 2000. It includes source control, erosion control, and vegetation management standards and practices which apply to all private and public stormwater facilities. The Water Quality BMP Manual for operation and maintenance of Publicly Owned Property includes source control, erosion control, and vegetation management standards and practices for activities that maintain roads, stormwater facilities, public facilities, and park lands.

Stormwater Facility Maintenance Compliance Measures for Calendar 2000

Facility/Activity	NPDES-Required Activity	Performance Measures	Number of Activity
Catch basins	inspect 1x/yr clean following maintenance standards	# catchbasins owned by CC # catchbasins inspected # catchbasins cleaned %catchbasins cleaned	approx. 6700 all inspected 6716 cleaned 100% cleaned
Manholes	inspect 1 x/yr clean following maintenance standards	# manholes owned # manholes inspected # manholes cleaned % cleaned	approx. 2400 all inspected 3 cleaned 0.1%
Drywells	inspect /clean every 3-5 years	# drywells owned # drywells inspected # drywells cleaned % cleaned	approx. 900 all inspected 3 .3%
Detention/Retention facilities	mow 3 or 4 x/yr or maintain vegetation as natural	# R/D facilities owned # mowed # other maintenance done % compliance	117 573 (4.9times) all weeded 100%
Biofiltration Swales	mow 3 or 4 x/yr other activities as per manual	# swales owned # times swales mowed description of other activity % compliance	241 1,260 (5.2 times) cleaned/weeded 100%
Storm Sewer Pipe	inspect/maintain as necessary	# feet cleaned	17,032
Maintenance Tracking	Use computer based system to track activities	Activity Tracking Database still in use; timeline for comprehensive new system set back to early 2002	

Maintenance Tracking System Established by December 31, 2000

The county established a Microsoft Access® database to track maintenance activities for the permit. Clark County continued contract process for a project to develop and implement a comprehensive maintenance-management system for road and drainage system O and M.

Private Stormwater Facilities Inspection by July 31, 2000

Environmental Services developed a list of business and public facilities that have on-site stormwater facilities and a database to track both stormwater and source control BMP inspections. An inspector was hired and started inspections in June 2000. Public Works stormwater education staff inspect sites that are more likely to require source controls.

Compliance Measures for Private Storm Sewer Maintenance and Source Controls (calendar 2000)

Number	Reporting Item
179	Private stormwater systems had **maintenance** inspections
168	Private stormwater systems meeting **maintenance** requirements
119	Private stormwater systems had **source control** inspections
15	Private stormwater systems meeting **source control** requirements
29	Private stormwater systems not meeting **maintenance** requirements
86	Private stormwater systems not meeting **source control** requirements
10	Private stormwater systems referred/provided **maintenance** info/education
86	Private stormwater systems referred/provided **source control** info/education
8	Private stormwater systems referred to Code Enforcement for **source control**

Storm Sewer Maintenance Ordinance by July 31, 2000

The Water Quality Ordinance (Chapter 13.26A CCC) was amended in July 2000 to require stormwater facility maintenance and adopt county maintenance manual into county code by reference. Ordinance revisions and the manual establish maintenance requirements for all private and public stormwater facilities in unincorporated Clark County effective July 2000.

Decant Facility Operation

Clark County operates a storm sewer sludge decant facility. Liquids are treated and discharged to sanitary sewer. Solids are managed and disposed of, or reclaimed under a solid-waste handling permit issued by the Southwest Washington Health District. The City of Vancouver and WDOT also use the facility. Other Clark County municipalities have the option of contracting to use the facility.

S5.B.8.d. Operation and Maintenance of Roads and Highways

Permit Requirement

Practices for operating and maintaining public streets, roads and highways, including rest areas, to reduce stormwater runoff impacts.

Summary of Compliance Activities

Clark County maintained roads and streets according to schedules and standards established for the approved NPDES stormwater management program. Road Operations and Parks Maintenance worked closely with Environmental Services to draft road maintenance and vegetation management standards and practices in the Water Quality BMPs for Operation and Maintenance of Publicly Owned Property manual. The manual was adopted as policy in July 2000 for the use of pesticides and fertilizer on county lands.

Compliance Measures for Road and Street Maintenance (calendar 2000)

Facility/Activity	NPDES-Required Activity	Performance Measures	# Activities Completed
Sweeping Streets	residential 9 x/yr.; arterial 12 x/yr.	# arterial sections owned # neighborhood sections owned # times each arterial section swept # times each neighborhood section swept % compliance	40 42 11 12.4 100%
Anti-icing/sanding -	follow BMPs	# events amount material collected where disposed?	7 none all swept to shoulder
Litter Removal	4 x/yr. on arterials, as needed	# times litter picked up on arterial roads	168
Roadside Ditches/Culverts	Preventative Maintenance on all	# ditches inspected # ditches cleaned # culverts inspected # culverts cleaned	all inspected 14% all inspected 14%

S5.B.8.e. Consideration of Water Quality in Flood Control Projects

Permit Requirement

A program to include water quality management considerations into flood management projects, including a schedule for retrofitting existing projects to the extent possible.

Summary of Compliance Activities

Drainage Projects

Drainage maintenance and repair projects include stream-bank erosion control and water quality treatment where feasible. There were few drainage projects during the reporting period and none of a scale that made it feasible to add water quality retrofits.

S5.B.8.f. Reduction of Water Pollution from pesticides, herbicides and fertilizers

Permit Requirement

A program to reduce pollutants associated with the application of pesticides, herbicides, and fertilizer discharging into municipal separate storm sewers owned or operated by the permittee.

Summary of Compliance Activities

Solid Waste Program Hazardous Waste Drop Offs

Environmental Services Division, Solid Waste Program continued (non-education) projects to encourage proper disposal of hazardous waste including pesticides and fertilizers. The household hazardous waste and

small generator waste collection and disposal program is a primary tool for reducing the amount of pesticides and fertilizers in the environment.

Plan and Schedule for Minimizing WQ Impacts from Pesticides and Fertilizers

The Clark County Water Quality BMP Manual for Operation and Maintenance of Publicly Owned Property includes standards and practices for use of pesticides and fertilizers. It was adopted as county policy in July 2000 and is being implemented by Public Works. Vancouver/Clark Parks, which manages parks and open space owned or operated by Clark County, follows the manual.

The Stormwater Facility Maintenance Manual, adopted as code in July 2000, provides guidelines for vegetation management of public and private stormwater facilities. A stormwater facility inspector began inspecting private facilities and providing the public with maintenance information in summer 2000.

Natural Lawn Care Program

The lawn care program is focused largely on education for children. A professionally designed puppet show was developed for presentation to elementary (kindergarten to third-grade) students. The show was presented 73 times and reached approximately 6,000 students with a message to use natural gardening methods.

Natural Landscaping for the Padden East Road Project

The Natural Landscaping project is a pilot project that includes the goal of finding ways to reduce pesticide and fertilizer for landscape construction and maintenance of county road projects. It began in 2000. The Padden East road project will construct approximately 1.7 miles of new road.

S5.B.8.g. Illicit Discharge, Improper Disposal, and Spill Abatement

Permit Requirement

A ongoing program to detect, remove and prevent illicit discharges and improper disposal, including spills, into the municipal separate storm sewers owned or operated by the permittee.

1. *Each permittee shall effectively prohibit illicit discharges to the municipal separate storm sewers owned or operated by the permittee other than those authorized under a separate NPDES permit. Unless identified by either the permittee or Ecology as significant sources of pollution to water of the state, the illicit discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) need not be prohibited from entering the municipal*

separate storm sewers owned or operated by the permittee. As necessary, the permittee shall incorporate control measures in the stormwater management program to ensure these discharges are not significant sources of pollutants to waters of the state.

2. *The program shall include ongoing field screening, using the methods required in 40 CFR 122.26(d)(1)(iv), or alternative methods that have been approved by Ecology. The field screening program shall focus on urbanized areas.*
3. *The program shall incorporate best management practices and procedures to prevent, contain, and respond to spills or improper disposal into the municipal separate storm drains owned or operated by the permittee.*

Summary of Compliance Activities

Water Quality Ordinance

The Water Quality Ordinance is implemented by the Community Development Department's Code Enforcement Division and Public Works. Code enforcement responds to complaints and uses both education and enforcement actions. Public Works provides source control information and education, responds to complaints, and initiated a "stream drainage area"-based approach to educating businesses about the code. Each business in the stream basin is visited by either a stormwater inspector or pollution reduction specialist.

Reporting for source control and storm sewer maintenance are in under component S5.B.8.c. Storm sewer O and M.

Storm Sewer Screening

Storm sewer screening is described as part of the monitoring program under condition S5.B.4.

Waste Collection and Disposal Programs

Environmental Services operates several programs to collect and properly dispose of hazardous waste material. Clark County believes these programs reduce the amount of waste that is improperly disposed of to storm drains, the ground, or water bodies.

Mobile/Satellite Hazardous Waste Collection

	Jan. - Dec. 2000
Number of Sites	7
Number of participants	270
Amount of Household Hazardous Waste	26,600 pounds

Motor Oil Recycling

	Jan. - Dec. 2000
Amount of used oil collected at household hazardous waste sites	27,000 gallons
Amount of used oil collected curbside	13,700 gallons
Amount of used oil collected at used oil collection sites	12,000 gallons

Moderate Risk Waste Collection Sites

	Jan. -Dec. 2000
Number of Sites	2
Number of participants	3,400
Amount of household hazardous waste collected at fixed sites	490,000 pounds
Amount of latex paint collected for recycling	196,900 pounds (158,100 pounds actually recycled

Spill response

Public Works follows practices described in the Water Quality BMPs for O and M of Publicly Owned Property and county policy. Public Works has limited capacity for responding to hazardous materials spills; however, spill response kits are provided for many Operations Division's vehicles. Awareness training is performed biennially. Spill response is coordinated through the Department of Emergency Services and the Department of Ecology. Policy is in place for notification of the appropriate responder for abandoned materials. Spills other than small vehicle fluid spills are referred to the Department of Ecology through the 911 system.

Three Operations staff were trained by WDOT to provide awareness and basic response training to other county employees.

Facility/Activity	NPDES-Required Activity	Performance Measures	# Activities Completed
Spill Response-	Procedures in place	# of kits in vehicles # of vehicles % of vehicles w/spill kits # of spills reported to Ecology	151 168 90% 4

This activity meets special requirement S9.B.6.

S5.B.8.h. Industrial Stormwater Pollution Reduction

Permit Requirement

A program to reduce pollutants in stormwater discharges from industrial facilities that discharge into municipal separate storm sewers owned or operated by the permittee, and ensure compliance with local ordinances. The program shall include, but not be limited to:

1. *Procedures to identify industrial facilities that discharge into the municipal separate storm sewers owned or operated by the permittee.*
2. *A field inspection program to assess compliance with local ordinances adopted in accordance with Special Condition S5.B.3; and*
3. *A program to monitor and control pollutants in stormwater discharges to municipal separate storm sewers owned and operated by the permittee, from industrial facilities that the permittee determines are contributing a substantial pollutant loading to municipal separate storm sewers. For industrial facilities which require coverage under Ecology's "Baseline General Permit for Stormwater Discharges Associated with Industrial Activity," this program shall be developed jointly with Ecology.*

Summary of Compliance Activities

There is relatively little industrial area in unincorporated Clark County, generally as scattered individual operations or small industrial areas. County actions are limited to those described here and actions described for private storm sewer inventory, inspection and maintenance requirements for Component S5.B.8.c. and Component S5.B.8.g.

Inventory

Environmental Services established an inventory of county businesses using the stormwater fee base and Assessor's office records of parcel land use. The stormwater fee billing database identifies every non-residential parcel for stormwater maintenance tracking. Environmental Services compiled a list of NPDES industrial stormwater permittees (non-construction) and requested each one to submit site plans and Stormwater Pollution Prevention Plans for inclusion in the stormwater

mapping database. The inventory allows tracking for the use of source control BMPs and proper stormwater facility O and M.

Field Inspection

Storm sewer inspections described under S5.B.8.c. meet this requirement.

Industrial Stormwater Permit Compliance

Pollution problems for facilities covered by NPDES industrial stormwater permits are referred to the Department of Ecology for enforcement. Environmental Services informally coordinates compliance with the Ecology SW Region NPDES industrial stormwater permit inspector. One facility was referred to Ecology for permit violations.

Clark County has a screening program that checked storm sewers in industrial areas. This program can be called to examine discharges from specific sites.

S5.B.8.i. Public Education

Permit Requirement

An education program aimed at residents, businesses, industries and employees of the permittee whose job functions may impact stormwater quality. An education program may be developed locally or regionally. The program shall include: Education on the proper use and disposal of pesticides, herbicides, and fertilizers; training of construction contractors and developers on developing stormwater site plans and BMPs for construction activities; efforts to explain the definition and impacts, and promote proper management and disposal of used oil and toxic materials.

Summary of Compliance Activities

Waste Reduction and Environmental Information and Education

Environmental Services conducts the solid waste program that includes a program aimed at proper management and disposal of hazardous waste and reducing hazardous or toxic materials use. Several of these programs focus on protecting water resources and sound environmental practices by businesses. The County also supports and participates in regional programs such as the Environmental Information Center and special events.

The BRAG business recognition program held four high-profile events anchored by local politicians and business leaders and presented four BRAG awards.

Build a Better Clark Partnership with Clark County Homebuilders Association

Action	Jan. - Dec. 2000
Information articles	6
On-site assistance visits	20

Small Quantity Generator Assistance Program

Action	Jan. - Dec. 2000
Number of business visits	116

Household hazardous waste education materials were provided to approximately 2,300 households.

Stormwater Specific Information and Education by July 31, 2000

Environmental Services has one specialist working solely on stormwater technical assistance for businesses and homeowners and two more Solid Waste Program staff who provide broader technical assistance for toxic material and waste reduction.

Action	Jan. - Dec. 2000
Number of businesses visited	126
Major newspaper advertisements on stormwater source controls	6
Theatre slide presentation on stormwater source controls	July and December

Pesticide Reduction Education

Clark County has a traveling puppet show that brings fertilizer and pesticide reduction education to large numbers of elementary school students. In addition, approximately 1,500 booklets were distributed.

PROGRAM	NUMBER OF PRESENTATIONS	TOTAL PARTICIPANTS DURING Jan. - Dec. 2000
Mother Natures Presentations	73	6,000 children and adults

Environmental Information Center

Clark County is one of six partners that support the EIC. The EIC provides coordinated environmental education. The program developed two new teacher workshops that reached over 5000 students. The EIC gave 25 class room presentations on groundwater protection to 1010 students.

PROGRAM	TOTAL PARTICIPANTS DURING Jan. - Dec. 2000
Class room groundwater presentations	25
Number of Children reached by groundwater presentations	1010
River Ranger Presentations	20
Number of Children reached	568

Water Resource Education

Clark County funds a one-half time positions to implement the watershed stewards program at WSU Clark County. There is also a cooperative program with the Environmental Information Center to perform River Rangers presentations.

PROGRAM	TOTAL PARTICIPANTS DURING Jan. - Dec. 2000
Number of Watershed Stewards groups	2
Number of Watershed Stewards trained	12

Status of Condition S9 Scheduled Actions

Special Condition S9 listed specific new activities with implementation schedules. This section lists the activities and their schedule status.

Requirement	*Schedule*	*Status*
S9.A.1. Stormwater equivalence to the Puget Sound Manual	Adopted by 7/31/00	In place 7/28/00
S9.A.2. Storm sewer maintenance ordinance	Adopted by 7/31/00	In place 7/28/00
S9.A.3. Add 1FTE code enforcement officer	In place 8/31/99,	In place 8/31/99
S9.A.3. Add 1FTE code enforcement officer if work load dictates	In place 2/28/00	In place 2/28/00
S9.A.4. Add 1 FTE erosion control inspector for Building	3/31/00	In place 3/31/00
S9.A.4. Add 1 FTE erosion control inspector for Dev. Serv.	3/31/00	In place 3/31/00
S9.A.5. Add 1 FTE stormwater facility for new development	7/31/00	In place 7/00
S9.A.6. Implement Water Quality Ordinance	System in by 7/31/00	Began 7/00
S9.B.1. Increase street sweeping to specified standards	Start 8/31/99	Began 8/99
S9.B.2. Increase swale maintenance to standards	Start 8/31/99	Began 8/99
S9.B.3. Implement inspection and maintenance program for R/D facilities	Start 3/31/00	Began 3/00
S9.B.4. Implement roadside ditch and culvert maintenance standards	Start 3/31/00	Began 3/00
S9.B.5. Add 1FTE for private facilities inspection	Start 7/31/00	Started 6/00
S9.B.6. Develop spill response program	In place 7/31/00	Began 6/00
S9.B.7. Perform storm pipe maintenance to standards	Start 3/31/00	Began 3/00
S9.B.8. Begin yearly catch basin inspection and cleaning	Start 8/31/99	Began 8/99
S9.B.9. Begin 5-year drywell cleaning cycle	Start 3/31/00	Began 3/00
S9.B.10. Establish computer-based maintenance tracking	In place 12/31/00	Simple system in Place 1/00
S9.B.11. Develop a program to map private storm sewers	In place 7/31/00	Work began in 6/00 Inventory began in fall 2000
S9.C.1. Establish a centralized SWMP database	In place 12/31/00	Work began 7/00
S9.C.2. Establish GIS storm sewer maintenance program	In place 12/31/00	In place 12/00
S9.C.3. Regulatory program monitoring project	In place 7/31/00	Ordinance tracking in place 7/00
S9.C.4. Establish storm sewer screening	In place 7/31/00	In place 7/00
S9.C.5. Watershed Characterization program schedule	Drafted by 7/31/00	Draft schedule completed 7/00
S9.D.1. Permit funding Strategy	Ordinance by 9/31/00	Completed 10/99
S9.D.2. Lawn campaign	In place 12/31/99	In place 12/99
S9.D.3. Add 2 FTE for stormwater specific education	In place 7/31/00	Completed 4/00
S9.D.4. Add 1 FTE for watershed steward program	In place 7/31/00	In place 11/99
S9.D.5. Add ½ FTE for river ranger program	In place 3/31/00	In place 8/99
S9.D.6. County policy on pesticide and fertilizers	In place 7/31/00	In place 7/00
S9.E.1. Establish capital improvement program	Begin by 8/31/00	Began 11/00; CRP retrofits started 1/00

2. NOTIFICATION OF CHANGE IN PERMIT AREA

Approximately 50 acres of rural residential property was annexed into the City of Washougal. This annexation does not include any existing outfalls, but does eliminate about 1,000 feet of county right-of-way from an existing outfall. The annexation is too small to influence the program.

3. DIFFERENCES BETWEEN PLANNED AND ACTUAL EXPENDITURES BY COMPONENT.

The permit asks for a description of:

Differences between planned and actual expenditures with a breakdown for the components of the SWMP and the budget since permit issuance. The report shall reflect numeric expenditures for the components of the SWMP.

This report includes two tables showing:

- Estimated budget and expenditures for 2000 by Program Element and
- Yearly expenditures by Permit Component.

It is not possible to track every dollar expended on NPDES compliance because no systems were in place to separately track some pre-permit stormwater activities. The stormwater program includes both baseline (or ongoing before the 1999 permit) activities and new activities to meet permit requirements after 1999.

Baseline activities had a recognized revenue source in 1999. New activities had no established revenue source until October 1999, when the Board of County Commissioners adopted a stormwater fee and established the Clean Water Fund. Ongoing baseline activities are often difficult to separate from non-stormwater activities because that was not an issue when expense tracking was originally set up. New activities billed to the Clean Water Fund have work orders tagged to individual permit components.

Estimated 2000 Budget and 2000 Expenditures by Program Element

The estimated 2000 budget included baseline activities and the new activities billed to the new Clean Water Fund. The estimated budget for baseline activities and the new activities budget were added together to estimate total planned expenditures for each Program Element and program administration. Regulatory Program budget is the sum of estimated baseline from Community Development and the Clean Water Fund budget. O and M, Monitoring, Public Involvement and Education, and Capital Program are all the sum of estimated NPDES-required activities from year-1 baseline in the Stormwater Management Program

(April 1999) and Clean Water Fund budget. Administration is from the Clean Water Fund budget. Program administration includes program costs such as manager's time, building rental for the stormwater section, the annual permit fee, permit program development, and one-time program startup costs, and stormwater fee collection.

Expenditures are reported by the county accounting system for O and M; Monitoring and Evaluation; Public Involvement and Education; and Administration. The Regulatory Program and Capital Program include estimates for expenditures that are not tracked separately as NPDES activities.

Estimated budget and Estimated Expenditures by Program Element

SWMP Program Element	***Est. Total 2000 Budget***	***Estimated Expenditures***
Regulatory Program	$ 1,813,542	$ 1,621,799
Operation and Maintenance	1,895,997	2,085,268
Monitoring and Evaluation	434,180	204,874
Public Involvement and Education	1,050,327	776,589
Capital Improvements	670,610	2,240412
Program Administration/coord.	643,695	860,983
Totals	**$7,189,004**	**$7,789,925**

Estimated Annual Expenditures by Permit Program Component

Stormwater program components are defined by the permit as specific requirements to develop and implement the stormwater management program. Components S5.B.2., S5.B.3., and S5.B.5. had no expenses during 2000 because they relate to developing the stormwater management program for the permit application completed in 1999. Other components little or no expenses because the activities are conducted as parts of other components. For example, testing and screening for non-stormwater discharges from industrial facilities under component S5.B.8.h is actually part of the monitoring program (S5.B.4.).

Estimated Yearly Expenditures by Permit Component

Component	*Aug. to Dec. 1999*	*Jan to Dec. 2000*
Regulatory Program		
S5.B.8.a. New Development, Redevelopment and Construction Site Runoff	450,140	1,621,799
Operations and Maintenance		
S5.B.8.c. Operation and Maintenance of Municipal Storm Sewers	675,052	1,295,186
S5.B.8.d. Operation and Maintenance of Roads and Highways	312,621	790,082
Monitoring and Evaluation		
S5.B.4. Monitoring Program	58,306	102,926
S5.B.6. Data Maintenance	0	101,948
Public Involvement and Education		
S5.B.7. Watershed-wide Coordination	0	160
S5.B.8.f. Reduction of water pollution from pesticides, herbicides and fertilizers	0	162
S5.B.8.g. Illicit Discharge, Improper Disposal, and Spill Abatement	166,573	286,658
S5.B.8.h. Industrial Stormwater Pollution Reduction	0	0
S5.B.8.i. Public Education	211,019	489,609
Capital Improvements		
S5.B.8.b. Control of Runoff from Existing Residential and Commercial Development (includes retrofitting)	21,113	2,237,646
S5.B.8.e. Consideration of Water Quality in Flood Control Projects	0	2,766
Administration		
Program Administration/Coordination/Overhead (no component)	$ 156,227	$ 836,578
S5.B.1. Comprehensive Planning Process	8,787	24,405
S5.B.2. Management Needs and Priorities	0	0
S5.B.3. Legal Authority	0	0
S5.B.5. Fiscal Analysis	0	0
Total	**$2,061,837**	**$7,789,925**

Discussion of Planned and Actual Expenditures

Current, or "baseline" activities continue at about pre-permit levels. New activities began phasing in during the summer of 1999. Some new activities did not start until late 2000 or may even be deferred until 2002 because long term permit requirements make it impractical to begin them. Examples include monitoring programs that will have specific requirements under the new permit and hydrologic modeling to implement yet undefined regulatory requirements of the new permit. Consequently, expenditures for monitoring and evaluation are lower than would be expected for a fully implemented program.

Costs for operation and maintenance of stormwater facilities and roads can vary by season and from year-to-year depending on weather. For example, extremely wet weather can greatly increase costs for emergency actions and repairs, while dry weather decreases costs. The last year has been mild and expenditures for activities such as ditch maintenance are lower.

Monitoring and Evaluation includes budgeted activities that were deferred to 2001 under the assumption that key issues for monitoring under the ESA program and the next stormwater permit would be resolved.

The stormwater capital improvements were about $1.6 million higher than originally estimated because the Road Program began retrofitting existing drainage during many of its road construction projects. Retrofitted areas are existing streets, lacking stormwater treatment or flow controls to current standards, which drain through new road projects.

Public involvement and education expenses were approximately $300,000. This is partly due to the 2000 budget being for a full year of activity but actual activities phasing in as required by the permit.

Administration costs reflect the increased effort associated with setting up a new program and the billing system for the Clean Water Fee. Administration also includes water quality grant administration for the East Fork and Lacamas Lake programs.

4. REVISIONS TO THE SWMP FISCAL ANALYSIS

The financial analysis in the SWMP is for a five year program. Ecology wrote a permit to cover the period of August 1999 to December 31, 2000. The permit included parts of the SWMP but not all of it. A new SWMP, including the five-year fiscal analysis will be drafted following issuance of the statewide municipal permit (expected in late 2001).

Until a new permit is effective, the program will continue into the year 2002. We expect to increase the amount spent on monitoring, storm sewer mapping and public involvement and education during 2002 as these parts of the program continue to develop.

5. SUMMARY AND ANALYSIS OF THE CUMULATIVE MONITORING DATA COLLECTED THROUGHOUT THE TERM OF THE PERMIT

All monitoring activities are described under Status of Permit Component S5.B.4.

6. SUMMARY OF COMPLIANCE ACTIVITIES

These are described in the description of each permit component.

7. IDENTIFICATION OF KNOWN WATER QUALITY IMPROVEMENTS OR DEGRADATION

Only limited data are available to show changes in water quality. Water quality monitoring in Lacamas Lake Basin is adequate to show some long-term trends.

Annual total phosphorus and suspended sediment loads to Lacamas Lake appear to be significantly lower now compared to the loading estimate at the beginning of the program in 1983-1984. The 1983-1984 estimates are the only previous loading calculations.

Year	Discharge	Total P Load	TSS Load
12/1983-11/1984	127,000 acre ft	14,500 kg	1,800,000 kg
10/1998-9/1999	128,000 acre ft	7,500 kg	812,000 kg

Long-term trend testing performed on in-lake data collected intermittently since 1983 indicate a slight downward trend in epilimnetic total phosphorus concentration and a slight upward trend in epilimnetic nitrate concentration. Overall, however, conditions in Lacamas Lake do not appear to have changed significantly since 1983. The lake continues to exhibit the symptoms of eutrophication. Hypolimnetic dissolved oxygen depletion has remained consistent and severe since 1983, primary productivity (algal growth) has remained high, and macrophyte growth is plentiful.

During the reporting period, Lacamas Lake continued to show eutrophication symptoms, including summer hypolimnetic dissolved oxygen depletion and high levels of algae growth. Long-term trend analyses (Seasonal Kendall test) indicate a significant (95% confidence level) but slight downward trend in total phosphorus in the surface waters since 1983. Between 1983 and 1999, average (arithmetic mean) surface water total phosphorus concentration decreased from 0.070 mg/L to 0.033 mg/L. However, trend analyses from 1991 to 2000 indicate no significant change in surface water total phosphorus concentration during the past decade.

Similar analyses for surface water nitrate concentration indicate slight increases from 1983 to 2000 and from 1991 to 2000, but these apparent increasing trends are not significant at the 95%, 90%, or 80% confidence levels.

8. WATERSHED-WIDE COORDINATION AND ACTIVITIES

This information is provided under Status of Permit Component S5.B.7. Watershed-Wide Coordination and S5.B.1. Planning.